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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,231	07/10/2003	John Benjamin Southall	SAR 14884	2338

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PATENT DOCKET ADMINISTRATOR
LOWENSTEIN SANDLER P.C.
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ROSELAND, NJ 07068

EXAMINER

AKHAVANNIK, HADI

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/617,231	Applicant(s) SOUTHALL ET AL.	
	Examiner Hadi Akhavannik	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 9, 11-13, 17, 18 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 5-7, 10, 14-16, 19, 20 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/4/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Paragraphs 1 and 30 are missing the serial number and filing date. Please fill in the information.

Appropriate correction is required.

Drawings

2. The informal drawings are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 8, 11-13, 17, and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Covell et al. (7003134, referred to as "Covell" herein).

Regarding claim 1, Covell discloses a method of refining a vision system comprising: obtaining image intensity data of a field of view and a depth map of objects within the field of view (see the abstract and column 5 lines 6-8 disclose obtaining both the depth map and image intensity data);

determining if the image intensity data and the depth map include information related to a target (Column 5 lines 7-19 disclose that the data is used for object tracking);

searching for the top of the target in the image intensity data using information in the depth map; searching for vertical edges of the target in the image intensity data using information in the depth map; and searching for the bottom of the target in the image intensity data using information in the depth map (column 5 lines 17-26 and column 16 line 50 to column 18 line 29 disclose that the depth map and intensity information is used to find the pose of the object. In order to determine the pose the

system must find the silhouette of the object it is tracking. A silhouette inherently includes the vertical edges, top, and bottom of the object).

Regarding claim 2, the rejection of claim 1 discloses finding the pose of the object that requires the system to inherently find the height and width of the object it is tracking. A much more detailed explanation of the pose detection can be found in columns 9-15.

Regarding claim 3-4, Covell discloses a method including refining the image of the vision system (one example can be seen in column 12 lines 21-64 discloses using parameters for correction of the torso).

Regarding claim 8, Covell discloses searching for the bottom of the target includes searching lower rows of the image intensity data to find a dark-to-light transition (Covell discloses finding the edges by using a brightness or intensity change in column 5 lines 41-60.)

Regarding claims 11-12, please see the rejection of claim 1 and further see Covell column 9 line 43 to column 10 line 67 discloses that the system has initial conditions but also allows degrees of freedom in order to better fit the object.

Regarding claim 13, please see the rejection of claim 2 above as it discloses all aspects of claim 13.

Regarding claim 17, please see the rejection of claim 8 above as it discloses all aspects of claim 17.

Regarding claims 22-23, please see the rejection of claims 11 and 12 as they disclose all aspects of claims 22-23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Covell in view of Berkin et al. (4823394, referred to as "Berkin" herein).

Covell discloses all aspects of claim 9 except for a predetermined position.

Berkin discloses that the bottom of the target is set at a predetermined position if a dark-to-light transition is not found (column 14 lines 45-60 discloses that if the lightness value is not sufficient then the system sets the location to a default position).

It would have been obvious at the time of the invention to one of ordinary skill in the art to combine in Covell a default location means as taught by Berkin. The reason for the combination is because it makes for a more robust system that is able to continue functioning by setting a location to the default location when system is unable to find certain characteristics. Further both inventions are from the same field of endeavor of pattern recognition.

Regarding claim 18, please see the rejection of claim 9 above as it discloses all aspects of claim 9.

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5. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Covell in view of Parker et al. (6674894, referred to as "Parker" herein).

Covell discloses all aspects of claim 21 except for find edges at the same depth.

Parker discloses finding edges at the same depth (see column 9 lines 1-12 as it discloses image edges have the same depth.)

It would have been obvious at the time of the invention to one of ordinary skill in the art to include in Covell in view of Parker a method to find edges that are located at the same depth. The reason for the combination is because it allows the system to find edge points without needing to take into account brightness information. Further both invention are from the same field of endeavor of pattern recognition.

Allowable Subject Matter

6. Claims 5-7, 10, 14-16, 19-20 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bick et al. (5452367, discloses segmenting images using brightness); Doi et al. (636003, discloses using depth map and intensity); Stein et al. (6052124, discloses using depth field and brightness); and Narayanan et al. (discloses using dense depth maps).

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Akhavannik whose telephone number is 571-272-8622. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HA
12/20/06

JINGGE WU
SUPERVISORY PATENT EXAMINER

